

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**SEDIMENT BASIN**

(No.)

**CODE 350**

**DEFINITION**

A basin constructed to collect and store debris or sediment.

**SCOPE**

This standard applies to the installation of all basins where the primary purpose is to trap and store waterborne sediment and debris.

**PURPOSE**

To preserve the capacity of reservoirs, ditches, canals, diversions, waterways, and streams; to prevent undesirable deposition on bottom lands, irrigated lands, and developed areas; to trap sediment originating from construction or urban development sites; and to reduce or abate pollution by providing basins for deposition and storage of sediment, agricultural wastes and other debris.

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies where physical conditions or land ownership precludes treatment of a sediment source by the installation of erosion control measures to keep soil and other materials in place or where a sediment basin offers the most practical solution to the problem.

This practice may be a component of an agricultural waste storage system but shall not serve as the primary storage facility.

**DESIGN CRITERIA**

Sediment basins shall be planned, designed, and constructed in compliance with federal,

state, and local laws and regulations. This may include Nebraska Department of Environmental Quality (NDEQ) Title 130 regulations, National Pollutant Discharge Elimination System (NPDES) permitting regulations, or local storm water discharge regulations.

The sediment capacity of the basin shall equal the volume of sediment expected to be trapped at the site during the planned useful life of the basin (lifespan) or the improvements it is designed to protect.

Where it is a requirement of an operation and maintenance plan or determined that periodic removal of sediment will be practicable and firm arrangements are made to insure removal, the sediment capacity may be reduced from the design life capacity of the basin.

The design of dikes, dams, spillways, and drainage or drawdown facilities shall be in accordance with the standard for FOTG Dike (356), Pond (378), Grade Stabilization Structure (410) conservation practice standards or the requirements of TR-60, as appropriate for the design class or hazard potential and purpose of the structure being considered. Hazard potential is defined in the NRCS National Engineering Manual, Part 503. The selected design storm shall be safely routed through the structure assuming the design sediment capacity has been filled.

The minimum design storm for a sediment basin shall be a 10-year, 24-hour frequency in addition to the sediment capacity without failure or significant erosion. An outlet shall be provided of earth, pipe, stone, or other adequate devices to trap sediment and safely pass the design storm. The embankment shall have a minimum top width of four feet and side slopes of 2:1 or flatter.

## SEDIMENT BASIN (350)-2

A sediment basin used for collecting agricultural waste shall contain the entire runoff volume for a 25-year, 24-hour storm event, or safely pass the excess runoff from this storm event to a secondary containment facility, such that there shall be no potential for agricultural waste to enter the waters of the state.

The minimum design storm shall be a 2-year, 24-hour frequency plus sediment capacity for temporary basins that will be in place only during a short development or construction period or where conditions so warrant. This criteria will only apply to basins having drainage areas of 5 acres or less and a total embankment height of 5 feet or less.

The minimum release time for a sediment basin shall be 6 hours and a maximum of 72 hours for all applications.

Provisions shall be made for draining sediment pools (storage below open inlets) if necessary for mosquito control, weed control, and public safety. Fencing and other safety measures shall be installed as needed to protect the public and protect the structure from livestock or vehicle traffic. Consideration shall be given to good visual resource management (esthetics).

A sediment basin expected to remain in place more than 60 days and less than two years shall be seeded to a cover crop and/or mulched as required in the FOTG Mulching (484) conservation practice standard; or permanently seeded as required in the FOTG Critical Area Planting (342) conservation practice standard. Sediment basins that are planned for two years or longer will be permanently seeded as required in the Critical Area Planting (342) conservation practice standard.

### PLANS AND SPECIFICATIONS

Plans and specifications will meet be consistent with the design criteria in this practice standard and other practice standards as necessary. The work shall be in accordance with Nebraska construction and material specifications for the various elements of the structure to achieve its intended purpose. Shorter life expectancy materials consistent with the design life may be used on temporary sediment basins.

### OPERATION AND MAINTENANCE

An operation and maintenance plan shall be prepared for this practice which should include periodic inspections; prompt repair; or replacement of damaged components, sediment removal, rodent damage repair, and vegetative cover maintenance.

### REFERENCES

[Animal Waste Management Field Handbook,](#)  
[National Engineering Handbook 651](#)